Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Framework for Broadband Internet Service	)	GN Docket No. 10-127
	)	

REPLY COMMENTS OF VIASAT, INC. AND WILDBLUE COMMUNICATIONS, INC.

ViaSat, Inc. and its wholly-owned subsidiary, WildBlue Communications, Inc. (collectively, "ViaSat") hereby reply to the comments filed July 15, 2010 in response to the *Notice of Inquiry* ("*Notice*") adopted by the Commission on June 17, 2010 in the above-referenced proceeding.[1]

I. INTRODUCTION AND SUMMARY

ViaSat, through its WildBlue service, is one of the top-20 broadband ISPs in the country, and the premier provider of satellite broadband to over 400,000 U.S. homes. ViaSat also is authorized to deploy two new, state-of-the-art spacecraft to serve the United States. The innovative ViaSat spacecraft design yields the highest capacity satellite ever constructed, and allows the highest speeds and highest quality of broadband service ever offered by a satellite platform. The first of these spacecraft will be launched in early 2011, and the second can be launched by mid-2014. Thus, in less than a year, ViaSat will start transforming the nature of

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[1] *Framework for Broadband Internet Service,* GN Docket No. 10-127, Notice of Inquiry, FCC 10-114 (released June 17, 2010) ("*Notice*").

today's satellite-delivered broadband service by offering prices and performance levels that are competitive with terrestrial alternatives.

In its *Notice*, the FCC asked whether wireline and wireless broadband Internet access services should be classified in the same manner. Because ViaSat firmly believes in technology neutrality, ViaSat does not object to the FCC applying a single regulatory classification scheme to all broadband services, whether wireless or wireline. If, however, the Commission ultimately decides to classify wireline and wireless technologies differently for the purposes of this proceeding, then ViaSat submits that satellite broadband – which is, of course, a wireless service -- must properly be classified as a wireless service. The technology issues faced by terrestrial wireless broadband and satellite broadband are nearly identical and thus, they should be covered by the same regulatory scheme. Regardless of the classification of wireless services, the FCC must recognize that all broadband wireless services, including satellite broadband, face very similar traffic management issues arising from the use of scarce and limited spectrum.

ViaSat agrees with the many commenters who argue that the transmission component of broadband Internet access is tightly intertwined with indispensable information service functionalities. Satellite broadband, similar to other broadband access services, integrates the transmission and information service components. In particular, ViaSat is deeply concerned that classification of its unique content acceleration techniques as a transmission component, and the possibility of subsequent regulation of such techniques as "discriminatory," and therefore impermissible "traffic management," would inhibit the deployment of such techniques, to the disadvantage of satellite broadband service providers, and their customers. Furthermore, ViaSat submits that there should is no justification for making a regulatory distinction between third-party caching/content delivery network (CDN) services, such as those provided by Akamai, and

the caching/CDN services provided by broadband Internet access providers directly to their end-user customers.

In order to start fulfilling the goals of the *National Broadband Plan* pending final legal rulings on the classification of broadband services and possible clarifying legislation, ViaSat urges the FCC to move forward rapidly to adopt and implement pilot programs for making broadband Internet access both available and affordable to all Americans. More broadly, as the focus of USF turns to broadband service, it is essential that policymakers understand the ability of satellite broadband technology to provide high-quality, cost-effective broadband service to both underserved and unserved areas.

II. SATELLITE BROADBAND SERVICE SHOULD BE TREATED THE SAME AS TERRESTRIAL WIRELESS BROADBAND SERVICE (FIXED AND MOBILE)

In its *Notice*, citing the *Open Internet NPRM,*[2] the FCC noted that "there are technological, structural, consumer usage, and historical differences between mobile wireless and wireline/cable networks.[3] The FCC then sought "comment on whether these differences are relevant to the Commission's statutory approach to terrestrial wireless and satellite-based broadband Internet services."[4] In essence, the FCC asked whether wireline and wireless broadband Internet access services should be classified in the same manner.[5]

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2 *Preserving the Open Internet; Broadband Industry Practices*, GN Docket No. 09-191, WC Docket No. 07-52, Notice of Proposed Rulemaking, 24 FCC Rcd 13064, 13119 (para. 159)(*"Open Internet NPRM"*).

3 *Notice* at para. 102.

4 *Notice* at para. 102.

5 In its Declaratory Ruling finding that wireless broadband Internet access services are an information service, the FCC noted that it was addressing only terrestrial wireless services and not satellite broadband services. *Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks*, WT Docket No. 07-53,

ViaSat firmly believes in technology neutrality. The FCC should not favor or disfavor any technology in applying (or not applying) its rules and regulations, whether such technology is wireless or wireline, terrestrial or satellite, fixed or mobile. Differential application of rules risks providing one technology with an undeserved and unfair competitive market advantage over competing technologies. If the FCC determines that broadband will be regulated, we do not object to a consistent regulatory framework for all technologies. Any regulatory framework, however, must allow the technical differences among various technologies to be considered when determining what constitutes reasonable traffic management.[6]

A policy that is neutral on its face may, however, have the effect of unfairly preferring or disadvantaging certain technologies. Although satellite broadband has not been a focus of this debate, ViaSat understands that compelling arguments have been made that a single, inflexible regulatory scheme would have a disproportionate impact on wireless platforms. If the Commission ultimately decides to classify wireline and wireless technologies differently for the purposes of this proceeding, then satellite broadband must properly be classified as a wireless service. The technology issues faced by terrestrial wireless broadband and satellite broadband are nearly identical and should be covered by that same regulatory scheme. Doing so is essential

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Declaratory Ruling, 22 FCC Rcd 5901, at para.1, n. 1 (*"Wireless Broadband Declaratory Ruling"*).

6 Consistent with technology neutrality, all broadband service providers, including satellite broadband, must be eligible for universal service funding. Indeed, the FCC has recognized that satellite broadband can help advance the universal service goals of the *National Broadband Plan*. Among other things, the *National Broadband Plan* recommends that the FCC reevaluate legacy high-cost mechanisms in favor of "alternative approaches, such as satellite broadband, for addressing the most costly areas of the country to minimize the contribution burden on consumers across America." Omnibus Broadband Initiative, *Connecting America: The National Broadband Plan*, at 150 (*"National Broadband Plan"*).

to ensure that satellite broadband can compete on a level regulatory playing field with terrestrial wireless broadband services.

Regardless of the classification of wireless services, the FCC must recognize that all broadband wireless services, including satellite broadband, face very similar traffic management issues arising from the use of scarce and limited spectrum. First and foremost, satellite broadband *is* a wireless service. The FCC has defined "wireless broadband Internet access service" as "a service that uses spectrum, wireless facilities and wireless technologies to provide subscribers with high-speed (broadband) Internet access capabilities."[7] Satellite broadband Internet access likewise uses spectrum, wireless facilities, and wireless technologies to provide broadband Internet access capabilities. Like terrestrial wireless, satellite broadband operates with a fixed amount of spectrum regardless of the number of customers or the amount of data that these customers are transmitting and receiving.

In some ways, satellite broadband providers face even greater network management challenges than terrestrial wireless broadband providers. Unlike terrestrial wireless carriers, after a satellite has been constructed and launched, satellite operators cannot split cells to increase spectrum re-use (and thus, increase capacity). Further, satellite operators cannot make any changes to the satellite after it has been launched. By contrast, terrestrial wireless operators can add or swap hardware and software at their cell sites.[8]

Satellite broadband, like terrestrial wireless, is a critical part of the FCC's *National Broadband Plan*, and as ViaSat has pointed out, it is the most cost-effective means to provide high-quality broadband service to low population density areas and to pockets of customers

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7 *Wireless Broadband Declaratory Ruling* at para. 21.

8 Satellite operators can, however, implement hardware and software changes at their gateway earth stations and with customer premises equipment. These changes can improve the efficiency of spectrum utilization and increase available capacity.

passed over by wireline service providers in more densely populated areas.[9] With technology improvements and performance enhancements to be rolled out through its ViaSat-1 satellite, satellite broadband will be able to compete with a broader array of terrestrial broadband technologies. The FCC must be careful to ensure that its regulations do not inadvertently increase the cost of providing satellite broadband service or thwart this or other new competitive alternatives to terrestrial services, such as mobile and fixed wireless.

III. ANY REGULATORY POLICY SHOULD RECOGNIZE THAT TRAFFIC MANAGEMENT TOOLS MAY INTEGRATE THE TRANSMISSION AND INFORMATION SERVICES COMPONENTS OF BROADBAND SERVICE

ViaSat does not opine on the appropriate regulatory classification of broadband Internet access services. However, ViaSat agrees with the many commenters who argue that "the transmission component of broadband Internet access is, if anything, even more tightly integrated today than several years ago with indispensable enhanced functionalities ...."[10] ViaSat fully agrees with Cisco's assessment that:

> Internet access *remains* an integrated offering that intertwines transmission with protocol conversion, storage and retrieval of information, DNS resolution, caching, network security, and other functions to enable access to e-mail, web browsing, file sharing, and other offerings. .... Moreover, broadband ISPs are increasingly integrating processing functionality and last-mile data transmission to serve customer needs. For example, ISPs have "pushed" intelligence toward the edge of the network ... to improve quality of service."[11]

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9 See Comments of ViaSat, Inc. and WildBlue Communications, Inc. filed in *Connect America Fund: A National Broadband Plan for Our Future; High-Cost Universal Service Support*, Notice of Inquiry and Notice of Proposed Rulemaking, WC Docket Nos. 10-90, FCC 10-58, released April 21, 2010 ("*Connect America Fund Notice*").

10 ATT Comments at p. 71, and more generally at pp. 44 - 58. *See also* Comments of Cisco, MetroPCS, Verizon and Verizon Wireless, and Comcast.

11 Cisco Comments at p. 6 (emphasis in original).

The full array of services offered by satellite broadband, similar to other broadband access services, integrates the transmission and information service components. Like other broadband providers, the basic satellite broadband service offers DNS look-up, e-mail, security, anti-spam protection, anti-virus protection, and identity theft protection, among other things. Significantly, next generation satellite networks will deploy state-of-the-art acceleration technology. ViaSat's patent-pending Accelenet technology will enable an improved Internet experience for users, by utilizing sophisticated communications algorithms between the customer premises modem and the satellite gateway hub equipment that essentially "accelerate" the transmission of Internet data to and from the user. This acceleration and optimization of content packets benefits subscribers and is **not** the result of any paid prioritization agreements with content providers. Any regulatory policy should recognize the significant performance benefits from acceleration and similar tools, regardless they constitute an unregulated information service component or simply "reasonable traffic management."

In considering content acceleration techniques, classifying any one technique in a way that creates uncertainty about its legality or inhibits its deployment simply by virtue of the regulatory label, should be avoided. Acceleration tools are a crucial and evolving technology that typically route different types of traffic differently based on the action needed to offer the best service to customers – but not based on the identity of the content supplier or source In ViaSat's case, any differential treatment of traffic would not be the result of ViaSat's financial interest in particular content – indeed, ViaSat has no financial ownership of, or affiliation with, *any* content or content provider. Instead, differential treatment would simply be a function of the network operation and limitations of the accelerator – all in the interest of providing the best possible service to ViaSat's customers.

ViaSat's network also provides, on an integrated basis, caching services that are similar in function to the caching services provided by content delivery networks (CDNs) like Akamai. The FCC clearly stated in the *Notice* that "services that utilize telecommunications to afford access to particular stored content, such as content delivery networks, ... are outside the scope of this proceeding."[12] ViaSat submits that there should be no regulatory distinction between third-party caching/CDN services and the caching/CDN services provided by broadband Internet access providers directly to their end-user customers.

IV. THE FCC SHOULD REMAIN TRUE TO ITS COMMITMENT TO FOSTER INNOVATION AND SPUR BROADBAND ADOPTION RATES, ESPECIALLY AMONG THE UNSERVED

The *National Broadband Plan* recognizes the critical importance of making broadband universally available and affordable to all Americans. More recently, the FCC concluded that "broadband is not being deployed to all Americans in a reasonable and timely fashion."[13] As a consequence, the FCC concluded that Section 706 of the Communications Act requires it to "take immediate action to accelerate deployment of [advanced telecommunications] capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market."[14]

With both Congress and the FCC focused on reforming the universal service regime, comprehensive overhaul of USF programs to support high-cost broadband services may soon become a reality. Satellite service – in the past – has not been a focus of USF funding. In light

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12 *Notice* at para. 107.

13 *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans*, Sixth Broadband Deployment Report, FCC 10-129 (*"2010 Section 706 Report"*), at paras. 2 and 28.

14 *Id.* at paras. 3 and 29.

of this, ViaSat is very concerned that satellite broadband's capabilities to play a vital role in providing high-quality, cost-effective broadband service to high-cost areas may not be fully understood by policymakers. ViaSat is confident that the Broadband Initiative Program's Satellite Project funding, to be implemented soon with $100 million (or more) from the Rural Utilities Service ("RUS"), will provide a showcase for the high adoption rates and service quality that satellite broadband can make possible for high-cost areas. Following the lead of the RUS, ViaSat urges the FCC to monitor this program's success and include satellite broadband as an essential part of any overhaul of the USF program.

In order to start fulfilling the goals of the *National Broadband Plan* pending final legal rulings on the classification of broadband services and possible clarifying legislation, ViaSat also urges the FCC to move forward rapidly to adopt and implement pilot programs for making broadband Internet access both available and affordable to all Americans. Such programs will enable the FCC to test adoption and deployment programs in the real world, without committing large sums of money. For example, such programs will greatly facilitate an analysis of the cost per subscriber and subscriber satisfaction of extending broadband service to geographic areas with limited broadband service availability.

V. CONCLUSION

For the foregoing reasons, ViaSat urges the FCC to (1) classify satellite broadband services in the same manner in which terrestrial wireless services are classified; (2) recognize that satellite broadband, similar to other broadband access services, integrates the transmission and information services components; and (3) implement pilot programs for making broadband Internet access both available and affordable to all Americans, while recognizing the unique ability of satellite broadband technology to provide high-quality, cost-effective broadband service to high-cost areas.

Respectfully submitted,

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